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C. Moore

PATENT APPLICATION



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q64937

Yuji ISODA, et al.

Appln. No.: 09/885,069

Group Art Unit: 2882

Confirmation No.: 5003

Examiner: A. Ho

Filed: June 21, 2001

For: RADIATION IMAGE READ-OUT METHOD AND APPARATUS

**RESPONSE UNDER 37 C.F.R. § 1.111**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

In response to the Office Action dated May 6, 2002, please consider the remarks as submitted herewith.

As a preliminary matter, Applicants remind the Examiner that the finality of the current Office Action is erroneous. The Examiner has already agreed to the current Office Action being non-final, as indicated by the new Office Action Summary sent to Applicants' representative on June 5, 2002.

Claims 60, 66, 126, and 132-152 are pending in the application. Claims 133-148 are objected to as being dependent upon a rejected base claim, but the Examiner has indicated that these claims would be allowable if rewritten in independent form including all of the limitations of the rejected base claim and any intervening claims.

Claims 60, 126, 149, and 151 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Saotome (USP 5,038,037) in view of Nakamura et al. (USP 5,427,858, hereinafter

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“Nakamura”) and Struye et al. (US 5,371,377, hereafter “Struye”). Claims 66, 132, 150, and 152 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Saotome in view of Nakamura, Gilblom et al. (USP 5,747,825, hereinafter “Gilblom”), and Struye. Applicants traverse the rejections with the following comments.

In the Amendment of April 4, 2002, Applicants argued that there was no motivation or suggestion to combine the previously applied references (see p. 7-9). In response to these arguments, the Examiner now applies a new reference (Struye) in combination with the previously applied references to reject the claims on essentially the same basis. However, Applicants respectfully submit that the Examiner has once again failed to provide a motivation or suggestion to combine the applied references.

With respect to the rejection of claims 60, 126, 149, and 151, the Examiner asserts that Nakamura discloses an EL light source, the wavelength of which can be customized by changing the kinds of fluorescent organic solids of which the light-emitting layer is formed, and that Struye teaches that the emission intensity of the phosphor depends on the wavelength of the excitation light. However, Applicants submit that even if the Examiner’s assertions are correct, there is no suggestion or motivation to combine these teachings with the teachings of Saotome.

Although the Examiner further asserts that “[s]ince the stimulated emission of the phosphor depends on the wavelength of the stimulating light, a person would be motivated to employ an organic EL light source whose wavelength can be customized to induce optimal emission yield in the phosphor in order to enhance the signal to noise ratio in the image,” the only apparent suggestion to combine the various teachings of the references is in the Applicants’ specification. Moreover, Struye is directed to a method of erasing energy stored in a phosphor

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medium, which is a process entirely different from the radiation image read-out method and apparatus of the present invention. That is, Struye merely teaches erasing images stored in a phosphor medium. Furthermore, unlike the present invention, Struye does not teach or suggest means for reading-out. Thus, Applicants submit that the Examiner is engaging in improper hindsight reasoning to support the rejection.

Furthermore, in reference to FIGS. 9A and 9B, Saotome teaches the use of a light guide member 526 to control the wavelength of radiation. See col. 23, line 1 - col. 24, line 12. When light is irradiated to the surface of the fluorescent light guide member 526, the phosphor contained in the fluorescent light guide member is stimulated by the light to radiate fluorescence 527. The fluorescence 527 advances to the end faces of the light guide member by repeatedly undergoing total reflection. For example, the fluorescent light guide member 526 is selected so that it radiates fluorescence primarily having a wavelength of 500 nm upon receiving light primarily having a wavelength of approximately 400 nm emitted by the first stimulable phosphor layer 402B. Col. 23, lines 41-46. Thus, Saotome discloses its own manner in which to control light wavelengths, which diminishes any alleged motivation to combine the teachings of the references. Therefore, the combination of references is believed to be improper for this additional reason.

Additionally, with respect to claims 149-152, Applicants have the following comments. In Saotome, a substrate is permeable only to an X-ray. However, according to the present invention, the stimulable phosphor sheet is permeable to emitted light. Many line light sources exist, but it is not true that any light source whose wavelength is same as that of excitation light can be used for reading out a stimulable phosphor sheet. In order to realize a sufficient image

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quality which is endurable for practical use, it is necessary to satisfy features such as 1) sufficient luminance, 2) good directivity, and 3) small irradiation irregularity. Therefore, a person skilled in the art would not indiscriminately use any light source for reading out the stimulable phosphor sheet.

Moreover, an organic EL device has advantages, which are not obtained by other light sources: 1) it is easy to process as a thin line light source maintaining sufficient quantity of light; 2) it generates almost no heat (heat affects the characteristic of stimulable phosphor sheets). It is the Applicants who have discovered that among a great number of light sources an organic EL device can be used for reading out a stimulable phosphor sheet.

Therefore, claims 149-152 are believed to be allowable for these additional reasons.

Regarding the rejection of claims 66, 132, 150, and 152, Applicants submit that these claims are allowable for at least the same reasons noted above for claims 60, 126, 149, and 151.

Also, Applicants submit that the claims are allowable for the reasons noted in the Amendment of April 4, 2002.

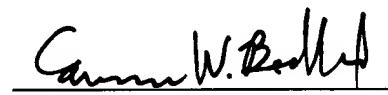
Therefore, all of independent claims 60, 66, 126, and 132 and their respective dependent claims are believed to be allowable over the prior art.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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